

## **REMARKS**

### **I. Summary of Office Action**

In the Advisory Action mailed August 25, 2009, the Examiner considered Applicants' arguments but did not find them persuasive. In response, Applicants file this Request for Continued Examination with the preliminary amendments presented above.

In the Final Office Action mailed June 8, 2009, the Examiner rejected claims 49-55, 59, 60, 65-71, 75, 76 and 81 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,757,771 ("Li") in view of U.S. Patent No. 6,7,21,316 ("Epps").

Claims 56, 57, 72 and 73 were rejected under 35 U.S.C. 103(a) as being unpatentable over Li in view of Epps and further in view of U.S. Patent Application Publication 2002/0141427 ("McAlpine").

Claims 58 and 74 were rejected under 35 U.S.C. 103(a) as being unpatentable over Li in view of Epps and further in view of U.S. Patent No. 6,658,014 ("Tezuka").

Claims 62, 63, 77 and 78 were rejected under 35 U.S.C. 103(a) as being unpatentable over Li in view of Epps and further in view of U.S. Patent No. 5,778,414 ("Winter").

Claims 63, 64, 79 and 80 were objected to as being dependent upon rejected base claims. The Examiner further stated that the objected claims would be allowable if rewritten in independent form including all of the limitations of the base claims and intervening claims. Applicants thank the Examiner for indicating the allowable subject matter.

### **II. Status of Claims**

Applicant previously cancelled claims 1-48 and added claims 49-81. Claims 49, 65 and 81 are currently amended, while claims 60, 61, 62, 77 and 78 are cancelled. As such, claims 49-59, 63-76 and 79-81 are pending, of which claims 49, 65 and 81 are independent.

### **III. Response to 103(a) Rejections**

The present application manages a plurality of virtual paths in a network interface between a host port and a network. Virtual paths are managed using dynamic buffer allocation according to priority-based queues. The presently claimed method dynamically allocates memory resources to each priority-based queue utilizing a list of free buffers and used buffers. The lists of free and used buffers include programmable size parameters to facilitate dynamic allocation and efficient use of available memory.

As recited in dependent claims 61 and 77, “each pointer has a corresponding size parameter that specifies the size of the memory location indicated by the pointer.” Further, dependent claims 62 and 78 recite, “wherein each size parameter is programmable to allow for different buffers corresponding to the pointers in the plurality of free buffer lists and used buffer lists to vary in size.” As such, each free buffer and each used buffer may have a different size, as indicated by the respective size parameter. This allows for more efficient use of the dynamically allocated memory buffers.

#### **A. The Combination of Li, Epps and Winters Fails to Disclose “Each Pointer Has a Corresponding Size Parameter that Specifies the Size of the Memory Location Indicated by the Pointer”**

In the 103(a) rejection of dependent claims 61 and 77, the Examiner concedes that “the combination of Li et al. and Epps et al. does not specifically disclose maintaining both a list of free buffers and a list of used buffers for each queue with the lists comprising a plurality of pointers to memory locations that are available to store packets and a plurality of pointers to memory locations that are being used, respectively, wherein each pointer has a size parameter specifying the size of the memory location indicated by the pointer.” However, the Examiner

cites Winter for disclosing a DMA/SCC controller with a table containing segment descriptors which “sizes and locates blocks of memory in the RAM memories 80 and 82 by including for each memory segment the following information: segment’s status, data length and the data pointer” (Col. 11, Lines 15-20).

First, Applicants submit that the data length information refers to the size of the packet, not the size of the memory buffer. Second, since the data length information is provided on the same controller table as the data pointer, the data length information is not a parameter of the data pointer itself. Winter further describes a preferred embodiment wherein each of the segment descriptors points to a fixed size 256 byte memory block (Col. 11, Lines 36-38, 51-52). Since the data pointers point to a fixed size memory block, there is no reason for a memory size parameter within the data pointer. Therefore, Applicants respectfully submit that Winter fails to explicitly disclose “each pointer has a corresponding size parameter that specifies the size of the memory location indicated by the pointer.”

In light of the above, Applicants respectfully submit that previously presented dependent claims 61 and 77 contain allowable subject matter over the combination of Li, Epps and Winters.

**B. The Combination of Li, Epps and Winters Fails to Disclose “Each Size Parameter is Programmable to Allow for Different Buffers Corresponding to the Pointers in the Plurality of Free Buffer Lists and Used Buffer Lists to Vary in Size”**

In the 103(a) rejection of dependent claims 62 and 78, the Examiner concedes that “the combination of Li et al. and Epps et al. does not specifically disclose each size parameter being programmable to allow for different buffers to vary in size,” but cites Winter.

As cited by the Examiner, Winter describes a preferred embodiment wherein each of the segment descriptors points to a 256 byte memory block among a plurality of 256 byte blocks.

Winter further states that “[t]he selection of the 256 byte memory block, as opposed to another size block is just a configuration parameter for the allocation routines of the operating system. It is fixed to a predetermined size in the preferred embodiment for the interleaving by decode.” (Col. 11, lines 36-58).

Each memory block in Winter has a predetermined *fixed* size, it does not allow for different memory sizes. As such, the memory size is not programmable, rather “fixed to predetermined size” upon configuration of the system. Thus, Winter fails to disclose “each size parameter is programmable to allow for different buffers corresponding to the pointers in the plurality of free buffer lists and used buffer lists to vary in size” as called for by claims 49, 65 and 81.

In light of the above, Applicants respectfully submit that previously presented dependent claims 62 and 78 contain allowable subject matter over the combination of Li, Epps and Winters

**C. Independent claims 49, 65 and 81 as Amended are in Condition for Allowance.**

Applicants have amended independent claims 49 and 81 to include the limitations of claims 61 and 62; and have amended independent claim 65 to include the limitations of claims 77 and 78. Claims 61, 62, 77 and 78 have accordingly been cancelled.

As discussed above, Applicants believe claims 61, 62, 77 and 78 contain allowable subject matter, and therefore submit that independent claims 49, 65 and 81 as amended are allowable over the combination of Li, Epps and Winter. Applicants further submit that dependent claims 50-59, 63, 64, 66-76, 79 and 80 are also allowable for at least the reason they each depend ultimately from an allowable base claim.

**V. Conclusion**

Applicant respectfully submits that, in view of the remarks above, pending claims 49-59, 63-76 and 79-81 are allowable over the cited references. Applicant therefore respectfully requests withdraw of the current rejections. The Examiner is invited to call the undersigned at 312 913-2134 with any questions or comments.

Respectfully submitted,

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